

IN THE CLAIMS:

Please cancel Claims 15, 30 and 45 without prejudice or disclaimer of subject matter, and amend Claims 1, 9, 16, 24, 31, 39, 46, 49 and 52 as shown below. The claims, as pending in the subject application, now read as follows:

1. (Currently amended) An image processing apparatus comprising:

input means for inputting an image of one of a plurality of image types;

image processing means for generating a recording image data based on the input image, the image processing means being capable of generating first recording image data for recording the image on a recording material at a predetermined recording density, and second recording image data for recording the image on a recording material at a recording density lower than that of the first recording image data, by reducing the number of recording dots through decimation;

selecting means for use of an operator in selecting a recording mode from among a first recording mode, for recording the first recording image data, and a second recording mode, for recording the second recording image data;

determining means for determining if the input image is a predetermined image type; and

control means for changing to the first recording mode which does not carry out said decimation, when the ~~second recording mode is selected by the operator and said determining means determines that the input image is a color image type or a monochrome halftone~~ the predetermined image type, suitable for recording by the first recording mode

whereby the second recording mode which carries out said decimation for generating deterioration for image gradation as selected by the operator is canceled.

2. (Previously presented) An image processing apparatus according to Claim 1, further comprising a recording means for recording the first recording image data or the second recording image data, according to the mode being used.

3. (Original) An image processing apparatus according to Claim 1, wherein said input means inputs one-pixel binary image data.

4. (Canceled).

5. (Original) An image processing apparatus according to Claim 3, wherein said input means inputs one of binary data received from another communication apparatus and binary data obtained by binarizing multi-valued image data obtained by reading a subject copy.

6. (Previously presented) An image processing apparatus according to Claim 1, wherein the predetermined image type is a color image, and said determining means determines whether the input image is a monochrome image or a color image; and said control means changes to the first recording mode, when the second recording mode is selected by the operator, and said determining means determines that the

input image is a color image whereby the recording mode selected by the operator is canceled.

7. (Previously presented) An image processing apparatus according to Claim 1, wherein when the input image type is a monochrome image, and said determining means determines whether the monochrome image is a character image or a halftone image; and

said control means changes to the first recording mode, when the second recording mode is selected by the operator, and said determining means determines that the monochrome image is a halftone image whereby the recording mode selected by the operator is canceled.

8. (Original) An image processing apparatus according to Claim 1, wherein said input means inputs an image having a plurality of pages;

said determining means determines the image type of the input image in units of a page; and

said control means controls the recording mode in units of a page.

9. (Currently amended) An image processing apparatus comprising:

input means for inputting an image of one of a plurality of image types;

image processing means for generating recording image data based on the input image, the image processing means being capable of generating first recording image data for unconditionally decimating recording the image data, ~~on a recording material at a~~

~~predetermined recording density~~, and second recording image data for conditionally decimating recording the image on a recording material at a recording density lower than that of the first recording image data, by reducing the number of recording dots through decimation;

selecting means for use of an operator in selecting a recording mode from among a first recording mode, for recording the first recording image data on a recording material, a second recording mode, for recording the second recording image data on the recording material, and a third recording mode, for recording third recording image data on the recording material, the third image data being obtained from the input image without decimating the image;

determining means for determining if the input image is a predetermined image type; and

control means for changing to the third recording mode which carries out neither unconditional nor conditional decimation, when one of the first and second recording modes is selected, and said determining means determines that the input image is a monochrome halftone the predetermined image type, type suitable for recording in the third recording mode whereby the first or second recording mode which carries out unconditional decimation as selected by the operator is canceled.

10. (Previously presented) An image processing apparatus according to Claim 9, further comprising a recording means for recording the first, second, or third recording image data.

11. (Original) An image processing apparatus according to Claim 9, wherein said input means inputs one-pixel binary image data.

12. (Original) An image processing apparatus according to Claim 11, wherein said input means inputs one of binary data received from another communication apparatus and binary data obtained by binarizing multi-valued image data obtained by reading a subject copy.

13. (Previously presented) An image processing apparatus according to Claim 9, wherein the predetermined image type is a color image, and said determining means determines whether the input image is a monochrome image or a color image; and said control means changes to the third recording mode, when the first or the second recording mode is selected, and said determining means determines that the input image is a color image whereby the selected recording mode is canceled.

14. (Original) An image processing apparatus according to Claim 9, wherein said input means inputs an image having a plurality of pages; said determining means determines the image type of the input image in units of a page; and said control means controls the recording mode in units of a page.

15. (Canceled)

16. (Currently amended) An image processing method comprising:

an inputting step, of inputting an image of one of a plurality of image types;

an image processing step, of generating recording image data based on the input image, the image processing step including generating any of first recording image data, for recording the image on a recording material at a predetermined recording density, and second recording image data for recording the image on a recording material at a recording density lower than that of the first recording image data, by reducing the number of recording dots through decimation;

a selecting step, of an operator selecting a recording mode from among a first recording mode, for recording the first recording image data, and a second recording mode, for recording the second recording image data;

a determining step, of determining if the input image is a predetermined image type; and

a controlling step, of changing to the first recording mode which does not carry out said decimation, when the second recording mode is selected by the operator, and it is determined in said determining step that input image is a color type or a monochrome halftone the predetermined image type, suitable for recording by the first recording mode whereby the second recording mode which carries out said decimation for generating deterioration for image gradation as selected by the operator is canceled.

17. (Previously presented) An image processing method according to Claim 16, further comprising a recording step, of recording the first or the second recording image data.

18. (Previously Presented) An image processing method according to Claim 16, wherein said inputting step includes inputting one-pixel binary image data.

19. (Original) An image processing method according to Claim 16, wherein the second recording mode is for decimating and recording the input image.

20. (Previously Presented) An image processing method according to Claim 18, wherein said inputting step includes inputting binary data received from another communication apparatus or binary data obtained by binarizing multi-valued image data obtained by reading a subject copy.

21. (Previously presented) An image processing method according to Claim 16, wherein the predetermined image type is a color image, and said determining step includes determining whether the input image is a monochrome image or a color image; and

said controlling step includes changing to the first recording mode, when the second recording mode is selected, and it is determined in said determining step that the input image type is a color image whereby the recording mode selected by the operator is canceled.

22. (Previously presented) An image processing method according to Claim 16, wherein the input image type is a monochrome image, and said determining step includes determining whether the monochrome image is a character image or a halftone image; and

said controlling step includes changing to the first recording mode, when the second recording mode is selected by the operator, and it is determined in said determining step that the monochrome image is a halftone image whereby the recording mode selected by the operator is canceled.

23. (Previously Presented) An image processing method according to Claim 16, wherein:

said inputting step includes inputting an image having a plurality of pages;  
said determining step includes determining the image type of the input image in units of a page; and

said controlling step includes controlling the recording mode in units of a page.

24. (Currently amended) An image processing method comprising:  
an inputting step, of inputting an image of one of a plurality of image types;  
an image processing step, of generating recording image data based on the input image, the image processing step including generating any of first recording image data for unconditionally decimating recording the image data, ~~on a recording material at a~~  
~~predetermined recording density~~, and second recording image data for conditionally

~~decimating recording the image data on a recording material at a recording density lower than that of the first recording image data, by reducing the number of recording dots through decimation;~~

a selecting step, of selecting by an operator a recording mode from among a first recording mode, for recording the first recording image data on a recording material, a second recording mode, for recording the second recording image data on the recording material, and a third recording mode, for recording third recording image data;

a determining step, of determining if the image is a predetermined image type; and

a controlling step, of changing to the third recording mode which carries out neither unconditional nor conditional decimation, when ~~one of the first and second recording modes is selected, and it is determined in said determining step that the input image is a monochrome halftone the predetermined image type, suitable for recording in the third recording mode whereby the first or second recording mode~~ which carries out unconditional decimation as selected by the operator is canceled.

25. (Previously presented) An image processing method according to Claim 24, further comprising a recording step, of recording the first, second, or third recording image data.

26. (Previously Presented) An image processing method according to Claim 24, wherein said inputting step includes inputting one-pixel binary image data.

27. (Previously Presented) An image processing method according to Claim 26, wherein said inputting step includes inputting binary data received from another communication apparatus or binary data obtained by binarizing multi-valued image data obtained by reading a subject copy.

28. (Previously presented) An image processing method according to Claim 24, wherein the predetermined image type is a color image, and said determining step includes determining whether the input image is one of a monochrome image and a color image; and

said controlling step includes changing to the third recording mode, when one of the first and second recording modes is selected, and it is determined in said determining step that the input image is a color image whereby the selected recording mode is canceled.

29. (Previously Presented) An image processing method according to Claim 24, wherein:

said inputting step includes inputting an image having a plurality of pages;  
said determining step includes determining the image type of the input image in units of a page; and

said controlling step includes controlling the recording mode in units of a page.

30. (Canceled)

31. (Currently amended) A computer readable medium having recorded thereon executable codes for implementing a computer implementable image processing method comprising:

an inputting step, of inputting an image of one of a plurality of image types;

an image processing step, of generating recording image data based on the input image, the image processing step includes generating any of first recording image data for recording the image on a recording material at a predetermined recording density, and second recording image data for recording the image on a recording material at a recording density lower than that of the first recording image data, by reducing the number of recording dots through decimation;

a selecting step, of an operator selecting a recording mode from among a first recording mode, for recording the first recording image data, and a second recording mode, for recording the second recording image data;

a determining step, of determining if the input image is a predetermined image type; and

a controlling step, of changing to the first recording mode which does not carry out said decimation, when the ~~second recording mode is selected by the operator, and it is determined in said determining step that the input image is a color image type or a monochrome halftone~~ the predetermined image type, suitable for recording by the first recording mode whereby the second recording mode which carries out said decimation for generating deterioration for image gradation as selected by the operator is canceled.

32. (Previously presented) A computer readable medium according to Claim 31, the method further comprising a recording step, of recording the first or the second recording image data.

33. (Previously Presented) A computer readable medium according to Claim 31, wherein said inputting step includes inputting one-pixel binary image data.

34. (Original) A computer readable medium according to Claim 31, wherein the second recording mode is for decimating and recording the input image.

35. (Previously Presented) A computer readable medium according to Claim 33, wherein said inputting step includes inputting one of binary data received from another communication apparatus and binary data obtained by binarizing multi-valued image data obtained by reading a subject copy.

36. (Previously presented) A computer readable medium according to Claim 31, wherein the predetermined image type is a color image, and said determining step includes determining whether the input image is a monochrome image or a color image; and

said controlling step includes changing to the first recording mode, when the second recording mode is selected, and it is determined in said determining step that the input image type is a color image whereby the recording mode selected by the operator is canceled.

37. (Previously presented) A computer readable medium according to Claim 31, wherein the input image type is a monochrome image, and said determining step includes determining whether the monochrome image is a character image or a halftone image; and

said controlling step includes changing to the first recording mode, when the second recording mode is selected by the operator, and it is determined in said determining step that the monochrome image is a halftone image whereby the recording mode selected by the operator is canceled.

38. (Previously Presented) A computer readable medium according to Claim 31, wherein:

said inputting step includes inputting an image having a plurality of pages;

said determining step includes determining the image type of the input image in units of a page; and

said controlling step includes controlling the recording mode in units of a page.

39. (Currently amended) A computer readable medium having recorded thereon executable codes for implementing a computer implementable image processing method comprising:

an inputting step, of inputting an image of one of a plurality of image types;

an image processing step, of generating recording image data based on the input image, the image processing step including generating any of first recording image

data for unconditionally decimating recording the image data, on a recording material at a predetermined recording density; and second recording image data for conditionally decimating recording the image on a recording material at a recording density lower than that of the first recording image data, by reducing the number of recording dots through decimation;

a selecting step, of selecting by an operator a recording mode from among a first recording mode, for and recording the first recording image data on a recording material, a second recording mode, for recording the second recording image data on the recording material, and a third recording mode, for recording third recording image data;

a determining step, of determining if the image is a predetermined image type; and

a controlling step, of changing to the third recording mode which carries out neither unconditional nor conditional decimation, when ~~one of the first and second recording modes is selected, and it is determined in said determining step that the input image is a monochrome halftone the predetermined image type, suitable for recording in the third recording mode whereby the first recording mode which carries out unconditional decimation~~ as selected by the operator is canceled.

40. (Previously presented) A computer readable medium according to Claim 39, further comprising a recording step, of recording the first, second, or third recording image data.

41. (Previously Presented) A computer readable medium according to Claim 39, wherein said inputting step includes inputting one-pixel binary image data.

42. (Previously Presented) A computer readable medium according to Claim 39, wherein said inputting step includes inputting binary data received from another communication apparatus or binary data obtained by binarizing multi-valued image data obtained by reading a subject copy.

43. (Previously presented) A computer readable medium according to Claim 39, wherein the predetermined image type is a color image, and said determining step includes determining whether the input image is a monochrome image or a color image; and

said controlling step includes changing to the third recording mode, when the first or the second recording mode is selected, and it is determined in said determining step that the input image is a color image whereby the selected recording mode is canceled.

44. (Previously presented) A computer readable medium according to Claim 39, wherein:

said inputting step includes inputting an image having a plurality of pages;

said determining step includes determining the image type of the input image in units of a page; and

said controlling step includes controlling the recording mode in units of a page.

45. (Canceled)

46. (Previously presented) An image processing apparatus comprising:  
input means for inputting an image that is a color image or a monochrome image;

image processing means for generating a recording image data based on the input image, the image processing means being capable of generating first recording image data for recording the image on a recording material at a predetermined recording density, and of generating second recording image data for recording the image on a recording material at a recording density lower than that of the first recording image data, by reducing the number of recording dots through decimation;

selecting means for use of an operator in selecting a recording mode from among a normal recording mode, for recording the first recording image data, and a decimation recording mode, for recording the second recording image data;

determining means for determining if the input image is a color image or a monochrome image; and

control means for changing to the normal recording mode, when the decimation recording mode is selected by said selecting means and said determining means determines that the input image is a color image whereby the recording mode selected by the operator is canceled.

47. (Withdrawn) An image processing apparatus comprising:

input means for inputting an image that is a color image or a monochrome image;

selecting means for selecting a recording mode from among a first recording mode for unconditionally decimating the image input by said input means and recording the image on a recording material, a second recording mode for referring to images of pixels surrounding a given pixel of the image input by said input means, decimating the image in a manner such that whether a given pixel is deleted is based on the surrounding pixels that have been referred to, and recording the image on the recording material, and a third recording mode for recording the image input by said input means on the recording material without decimating the image;

determining means for determining if the input image is a color image or a monochrome image; and

control means for changing to the third recording mode, when one of the first and second recording modes is selected by said selecting means, and said determining means determines that the input image is a color image whereby the selected recording mode is canceled.

48. (Withdrawn) An image processing apparatus comprising:

input means for inputting an image that is a color image or a monochrome image;

selecting means for selecting a recording mode from among a first recording mode for unconditionally decimating the image input by said inputting means and recording the image on a recording material, a second recording mode for referring to

images of pixels surrounding a given pixel of the image input by said inputting means, decimating the image in a manner such that whether a given pixel is deleted is based on the surrounding pixels that have been referred to, and recording the image on the recording material, and a third recording mode for recording the image input by said inputting means on the recording material without decimating the image;

determining means for determining whether the input image is a monochrome image or a color image, and if a monochrome image, whether the monochrome image is a character image or a halftone image; and

control means for changing to the second recording mode, when the first recording mode is selected by said selecting means, and said determining means determines that the monochrome image is a halftone image whereby the selected recording mode is canceled.

49. (Previously presented) An image processing method comprising:

an inputting step, of inputting an image that is a color image or a monochrome image;

an image processing step, of generating recording image data based on the input image, the image processing step including generating any of first recording image data, for recording the image on a recording material at a predetermined recording density, and second recording image data for recording the image on a recording material at a recording density lower than that of the first recording image data, by reducing the number of recording dots through decimation;

a selecting step, of an operator selecting a recording mode from among a normal recording mode, for recording the first recording image data, and a decimation recording mode, for recording the second recording image data;

a determining step, of determining if the input image is a color image or a monochrome image; and

a controlling step, of changing to the normal recording mode, when the decimation recording mode is selected in said selecting step and it is determined in said determining step that the input image is a color image whereby the recording mode selected by the operator is canceled.

50. (Withdrawn) An image processing apparatus comprising:

inputting means for inputting an image that is a color image or a monochrome image;

selecting means for selecting a recording mode from among a first recording mode for unconditionally decimating the image input by said input means and recording the image on a recording material, a second recording mode for referring to images of pixels surrounding a given pixel of the image input by said input means, decimating the image in a manner such that whether a given pixel is deleted is based on the surrounding pixels that have been referred to, and recording the image on the recording material, and a third recording mode for recording the image input by said input means on the recording material without decimating the image;

determining means for determining if the input image is a color image or a monochrome image; and

controlling means for changing to the third recording mode, when one of the first and second recording modes is selected by said selecting means, and said determining means determines that the input image is a color image whereby the selected recording mode is canceled.

51. (Withdrawn) An image processing method comprising:

an inputting step, of inputting an image that is a color image or a monochrome image;

a selecting step, of selecting a recording mode from among a first recording mode for unconditionally decimating the image input in said inputting step and recording the image on a recording material, a second recording mode for referring to images of pixels surrounding a given pixel of the image input in said inputting step, decimating the image in a manner such that whether a given pixel is deleted is based on the surrounding pixels that have been referred to, and recording the image on the recording material, and a third recording mode for recording the image input in said inputting step on the recording material without decimating the image;

a determining step of determining whether the input image is a monochrome image or a color image, and if a monochrome image, whether the monochrome image is a character image or a halftone image; and

a controlling step, of changing to the second recording mode, when the first recording mode is selected in said selecting step, and it is determined in said determining step that the monochrome image is a halftone image whereby the selected recording mode is canceled.

52. (Previously presented) A computer readable medium having recorded thereon executable codes for implementing a computer implementable image processing method comprising:

an inputting step, of inputting an image that is a color image or a monochrome image;

an image processing step, of generating recording image data based on the input image, the image processing step including generating any of first recording image data, for recording the image on a recording material at a predetermined recording density, and second recording image data for recording the image on a recording material at a recording density lower than that of the first recording image data, by reducing the number of recording dots through decimation;

a selecting step, of an operator selecting a recording mode from among a normal recording mode, for recording the first recording image data, and a decimation recording mode, for recording the second recording image data;

a determining step, of determining if the input image is a color image or a monochrome image; and

a controlling step, of changing to the normal recording mode, when the decimation recording mode is selected in said selecting step and it is determined in said determining step that the input image is a color image whereby the recording mode selected by the operator is canceled.

53. (Withdrawn) A computer readable medium having recorded thereon executable codes for implementing a computer implementable image processing method comprising:

an inputting step, of inputting an image that is a color image or a monochrome image;

a selecting step, of selecting a recording mode from among a first recording mode for unconditionally decimating the image input in said input step and recording the image on a recording material, a second recording mode for referring to images of pixels surrounding a given pixel of the image input in said input step, decimating the image in a manner such that whether a given pixel is deleted is based on the surrounding pixels that have been referred to, and recording the image on the recording material, and a third recording mode for recording the image input in said input step on the recording material without decimating the image;

a determining step, of determining if the input image is a color image or a monochrome image; and

a controlling step, of changing to the third recording mode, when one of the first and second recording modes is selected in said selecting step, and it is determined in said determining step that the input image is a color image whereby the selected recording mode is canceled.

54. (Withdrawn) A computer readable medium having recorded thereon executable codes for implementing a computer implementable image processing method comprising:

an inputting step, of inputting an image that is a color image or a monochrome image;

a selecting step, of selecting a recording mode from among a first recording mode for unconditionally decimating the image input in said inputting step and recording the image on a recording material, a second recording mode for referring to images of pixels surrounding a given pixel of the image input in said inputting step, decimating the image in a manner such that whether a given pixel is deleted is based on the surrounding pixels that have been referred to, and recording the image on the recording material, and a third recording mode for recording the image input in said inputting step on the recording material without decimating the image;

a determining step, of determining whether the input image is a monochrome image or a color image, and if a monochrome image, whether the monochrome image is a character image or a halftone image; and

a controlling step, of changing to the second recording mode, when the first recording mode is selected in said selecting step, and it is determined in said determining step that the monochrome image is a halftone image whereby the selected recording mode is canceled.